Principles of Macroeconomics

Topic 5 Part 1

Money, Interest Rate, and Monetary Policy (CH 10)

A quick review of Keynesian Cross

Keynesian Cross tells us about

- How the equilibrium output is determined
- How Fiscal Policy works
- The Multiplier Effect

But it does not tell much about

- Price (assumed to be constant)
- Interest Rate (assumed to be constant)
- Money and Monetary Policy

Before we have money…

- **barter** The direct exchange of goods and services for other goods and services.

- A barter system requires **a double coincidence of wants** for trade to take place.
- That is, A and B can trade if
  - A has what B wants,
  - and B has what A wants.

An Overview of Money

What Is Money?

- Money is any item that can serve the three functions:
- a medium of exchange
- a store of value
- a unit of account

- Some textbooks have the fourth function of “a standard of deferred payment”, but it can be merged into the above.

What Is Money?

- **medium of exchange,** or **means of payment** What people generally accept in their transactions of goods and services.

- **store of value** An asset that can be used to transport purchasing power from one time period to another.

- **unit of account** A standard unit that allows people to compare the values of things.

Commodity and Fiat Monies

- **commodity money** Items used as money that also have intrinsic value in some other use.
  - e.g. metal coins

- **fiat,** or **token, money** Items designated as money that are intrinsically worthless.
  - e.g. bank notes

Commodity and Fiat Monies

Why do people accept items that are intrinsically worthless (e.g. bank notes)?

- People are willing to accept Fiat Money because the government declare it to be "**legal tender**": a medium of payment valid for meeting a financial obligation.
- The government usually promises the public that it will not print paper money so fast that it loses its value.

currency debasement The decrease in the value of money that occurs when money supply is increased rapidly.

Measuring Money Supply

- So many things can be considered as money: for example, debit cards, cash, money in bank accounts, etc.
- Economists have given different names for different measures of money.
- **M1,** or **transactions money** Money that can be readily used for transactions.
- **M1 = currency in circulation + demand deposits**
- M1 also includes cheques and balances in debit cards.

Measuring Money Supply

- **M2,** or **broad money** The sum of M1 and other near monies that need to be converted before they can be used in transactions.
- **M2 = M1 + saving and time deposits**
- There are also M3, M4, and so on.
- Different countries have different definitions of money.
- **We will use M1 when we measure Money Supply.**

How money was created – Past

- People used gold as money, but it was inconvenient.
- People stored gold at goldsmiths for safety.
- Goldsmiths issued receipts that could be exchanged for gold. These receipts then became a new form of money.
- Goldsmiths had a lot of gold in their vaults, so they lent gold to people and charged interest.
- This expanded the money supply in the economy.

How money is created – Present

- People deposit money in banks for safety.
- Banks issue “evidence or receipts” that can always be exchanged for money, e.g. bankbooks.
- Banks now have a lot of deposits, so they lend these to people (i.e. banks issue loans) and charge interest.
- This expands the money supply in the economy.
- For example, 80$, out of the 100$ deposit, can be lent to someone, creating the money supply of 180$.

How money is created – Present

- The banking system used by goldsmiths and banks is called "**Fractional Reserve Banking**".
- In this system, only a fraction of deposits are backed by actual cash on hand and are available for withdrawal.

- **reserves** The deposits that a bank has at the Central Bank plus its cash on hand.
- **required reserve ratio (RR)** The percentage of its total deposits that a bank must keep as reserves at the Central Bank.

How money is created – Present

- Suppose that RR = 20%, meaning that banks have to keep 20% of their deposits as reserves.
- Mr. A deposits 100$ to Bank A. Bank A lends 80$ to Mr. B.
- Mr. B deposits 80$ to Bank B. Bank B lends 64$ to Mr. C.
- The process repeats again and again.
- The money supply now becomes = 100 + 80 + 64 + …
- In the limit, 100$ deposit will create the money supply

  = 500$ = 100 x **(1/RR)** = 100 x (1/0.2).

The Money Multiplier

- An increase in bank deposit leads to a greater than one-for-one increase in the money supply.
- **money multiplier** represents the maximum extent to which the money supply is affected by any change in the amount of deposits.

$$\text{money multiplier} \equiv \frac{1}{\text{required reserve ratio}}$$

- ***This concept assumes that people deposits all their money, and that the banks lend all their deposits.***

Functions of the Central Bank

- Central banks are sometimes known as “bankers’ banks.”
- The CB’s crucial role is to control the money supply, i.e. **monetary policy**.
- The CB also performs several important functions for banks, such as clearing interbank payments and assisting banks that are in difficult financial positions.
- **lender of last resort** It provides funds to troubled banks that cannot find any other sources of funds.

Functions of the Central Bank

- The CB also facilitates the transfer of funds among banks and is responsible for many of the regulations governing banking practices and standards.
- The CB is also responsible for **managing exchange rates** and the nation's foreign exchange reserves.